

Work Order ID 130812

130812

Page 1

Wednesday, March 25, 2015 3:52:30 PM

Item ID: D4500-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Bell Door Header, LH
 Start Date: 3/25/2015 Start Qty: 7.00 ***7*** Cust Item ID:
 Required Date: 3/25/2015 Req'd Qty: 7.00 ***7*** Customer:
 Reference: REWORK PER ECN

Approvals: Process Plan: MF Date: 5-3-25 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D4500	E

220		0.00				7	0		J.C.L. 5/5/05
220									
Mill Conv	Memo	0.00							
Conventional Milling Machine	PULL FROM STOCK D4500-1 X 7 2 X 98224 5 X 98255								
	REWORK TO REV E PER ECN 14-540								

230	QC5- Inspect part completeness to step on W/O	0.00				(7)			DAS 38 9-89
230									
QC	Memo	0.00							
Quality Control									MAY 06 2015

- Touch up holes alodine

- Reprime per Qsc 005 4.2
B#131846

- inspect prime

7 0 Jm15-5-6

7

(7)

DAS
41
9-89
DAS
38
9-89
15-5-8
MAY 08 2015

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 130812***130812***

Page 2

Wednesday, March 25, 2015 3:52:30 PM

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Required Date: 3/25/2015 Req'd Qty: 7.00 ***7*** Customer:
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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240	Identify as per dwg & Stock Location <i>mt</i>	0.00				<i>7</i>	<i>DA 27</i>		
240							<i>9.00</i>		
Packaging	Memo	0.00							
Packaging									
250	QC21- Final Inspection - Work Order Release	0.00							
250									
QC	Memo	0.00					<i>MLJ</i>		<i>MAY 1 2 2015</i>
Quality Control									

MLJ *MAY 1 1 2015*

MLJ *MAY 1 2 2015*

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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Wednesday, March 25, 2015 3:52:29 PM

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Work Order ID: 130812

130812

Parent Item: D4500-1

D4500-1

Parent Item Name: Bell Door Header, LH

Start Date: 3/25/2015

Required Date: 3/25/2015

Start Qty: 7.00

Required Qty: 7.00

Comments: IPP revA 12.07.18 new issue EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4500-1		Manufactured	No				Each	0.0000		7			

D4500-1

Bell Door Header, LH

5 x 98255
2 x 98204
7 MF
15-3-25

DQA: _____ Date: _____



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List Lots

Page 1 of 1

Wednesday, March 25, 2015 3:23:36 PM

Criteria : Item ID: d4500-1 All Locations All Warehouses All Quantity

Item ID Item Name	Warehouse ID Location ID	Lot Number	Last Trans Date	Lot Qty	Shelf Life Dt	Lot Code	Type Code	Comments
D4500-1	Main Warehouse	98224	7/22/2014	2.0000		QC21		
Bell Door Header, LH	MF							
	Main Warehouse	98255	7/22/2014	5.0000		QC21		
	MF							
			Total:	7.0000				

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WORK ORDER NON-CONFORMANCE / UPDATE

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ENGINEERING CHANGE NOTICE **DART AEROSPACE LTD**

Date:	14.03.27	Job No.:	ENG5105	ADR Yes/No:	N	ADR Date:		ECN #:	14- 540
Product No.:	D412-814	Created By:	AJS	Approved By:	<i>[Signature]</i>				
Product Name:	REPLACEMENT CREW DOOR KITS			Checked By:	<i>[Signature]</i>				

Distribution	Reqd	Resp	Initial / Date (YY/MM/DD)
Director of Operations	Y	NF	<i>[Signature]</i> 14/3/27
Production Manager / Coord.	Y	LL/MF	<i>[Signature]</i> 14-3-27
Purchasing Coord.	N	CL	
Production Engineering Coord.	Y	DD/JLM	<i>[Signature]</i> 14.03.27
Production Engineering Coord.	N	DL	
Customer Order Processing	N	RM/CC	

Distribution	Reqd	Resp	Initial / Date (YY/MM/DD)
DQA / QA Coord.	Y	PS	<i>[Signature]</i> 14/03/27
QC Coordinator	Y	ED	<i>[Signature]</i> 14/03/27
Customer Support	Y	SW/LM	<i>[Signature]</i> 14.03.28
Customer Technical Support	Y	MB/HS	<i>[Signature]</i> 14.03.28
Marketing Manager	N	KO	
Sales Support Manager	N	NM	

Reason for Change: DESIGN IMPROVEMENT

Documents Affected:
D4469 Rev. D, D4478 Rev. C, D4500 Rev. E, D4503 Rev. *[Signature]* MDL-D412-814 Rev. F.

IF APPLICABLE: NCR: _____ PAR: _____ CAR: _____

PAPERWORK UPDATE ☐ PARTS MUST COMPLY ☒ PREVIOUS PARTS SATISFACTORY ☐

#	Quality Assurance Actions	Reqd	Resp	Notes	Complete
1	Notify Previous Customers	N			
2	Notify Eurocopter France	N			
3					

#	Engineering Actions	Reqd	Resp	Notes	Complete
4	Required Documents/Drawings/Item ID's Under Review (URF)	Y	AJS		14.03.27 <i>[Signature]</i>
5	Update Master Document List (MDL)	<i>[Signature]</i>	AJS		
6	Update Document Record (DR)	N			
7	Update Product Compatability Matrix	N			
8	Notify TC / FAA of Change (eg. ICA, 8110-3)	N			
9					

#	Document Control Actions	Reqd	Resp	Notes	Complete
10	Move / Update Electronic Files / Design Journal	Y	KJ		14.03.27 <i>[Signature]</i>
11	Update Product Specification Files (Bluefiles)	N			
12	Update Approved/Preliminary Dwg PDF Files	Y	KJ		14.03.27 <i>[Signature]</i>
13	Update Product Development Summary (STC applications)	N			
14	Update QSI 021 (TC/FAA STC) and/or STC Approval List	N			
15	Create/Update Parts / STC Database	N			
16	Update / Verify Airworthiness Release Certificate Database	N			
17	Create / Update Change Record Form / Item Card Database	N			
18	Create / Update Packaging Process Plan (PPP)	N			
19	Red Decals required on Packaging Process Plan (PPP)?	N			
20	Update Controlled Supplier Documents (Qpulse) Database	N			
21	Update Grey Project Binder / Electronic Project Folder	Y	KJ		14.03.27 <i>[Signature]</i>
22	Update D-Part / M-Drawing / DSI / DEO Master Binders	Y	KJ		14.03.27 <i>[Signature]</i>
23	Manufacturing Licensing Agreement Update	N			
24					

Description / Action:

All parts made to prelims Revisions okay to use
Rework D4500-1/-2

ECN Verified & Complete: *[Signature]* Date: 14/5/21

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

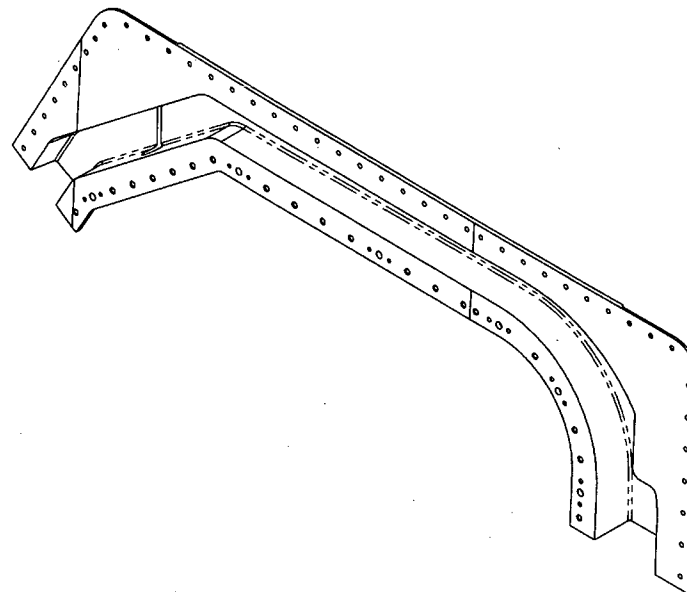
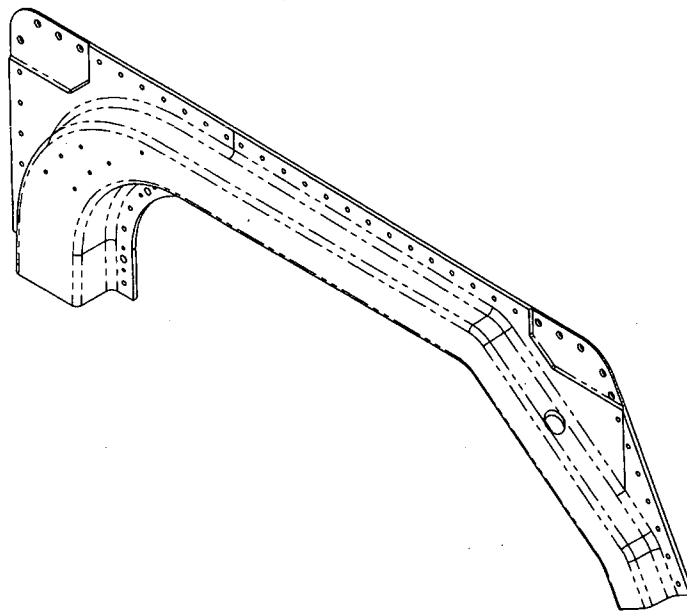
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D4500-1 BELL DOOR HEADER (LH)

NOTES:

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8
(OR AMS 4117/4128/4115/4116)
OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
OR ASTM B211 OR ASTM B221
REF DART SPEC M6081T6B
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME TEMPO GREY (4.2.1.3.2) PER DART QSI 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 1.78 lbs
- 8) RAW MATERIAL SURFACE FINISH SUFFICIENT FOR THIS PART
(NOT NECESSARY TO FACE MATERIAL)
- 9) ALL NON DIMENSIONED FEATURES PER CAD FILE "D4500-1-REVE.STP"

RELEASED
2014-03-27

E	SHY 2 ZONE B1 & SHEET 6 ZONE B8 Ø0.516 HOLE WAS Ø0.500.	AJS	14.03.24
D	SEE SHY 2 ZONE C8 POCKET ADDED TO AFT AREA OF FLANGE SIMILAR TO THE POCKET ON THE FWD AREA OF THE FLANGE. DONE TO FACILITATE OPERATION OF DOOR MECHANISM SAME POCKET ADDED TO -2 PART.	AJS	12.12.03
C	ADDED -2 (RH CONFIGURATION) B8-3 0.38 DIM TYP OUTSIDE PATTERN NOTE DELETED (DRAFTING ERROR) C4.4 Ø0.129 THRU WAS Ø0.225 (DRAFTING ERROR) CSK WAS 0.170. SEE DETAIL C Ø0.201 HOLE WAS Ø0.184 (EXPANDED FOR FLOATING NUTPLATE).	AJS	12.10.10
B	COMPLETE REDESIGN.	AJS	12.09.11
A	NEW ISSUE	AJS	12.03.02
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4500 BELL DOOR HEADER COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	AJS		
CHECKED	AJS		
MFG. APPR.	AJS		
APPROVED	AJS		
DE APPR.	AJS	BELL DOOR HEADER SCALE NTS	
DATE	14.03.24	REV. E SHEET 1 OF 8	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

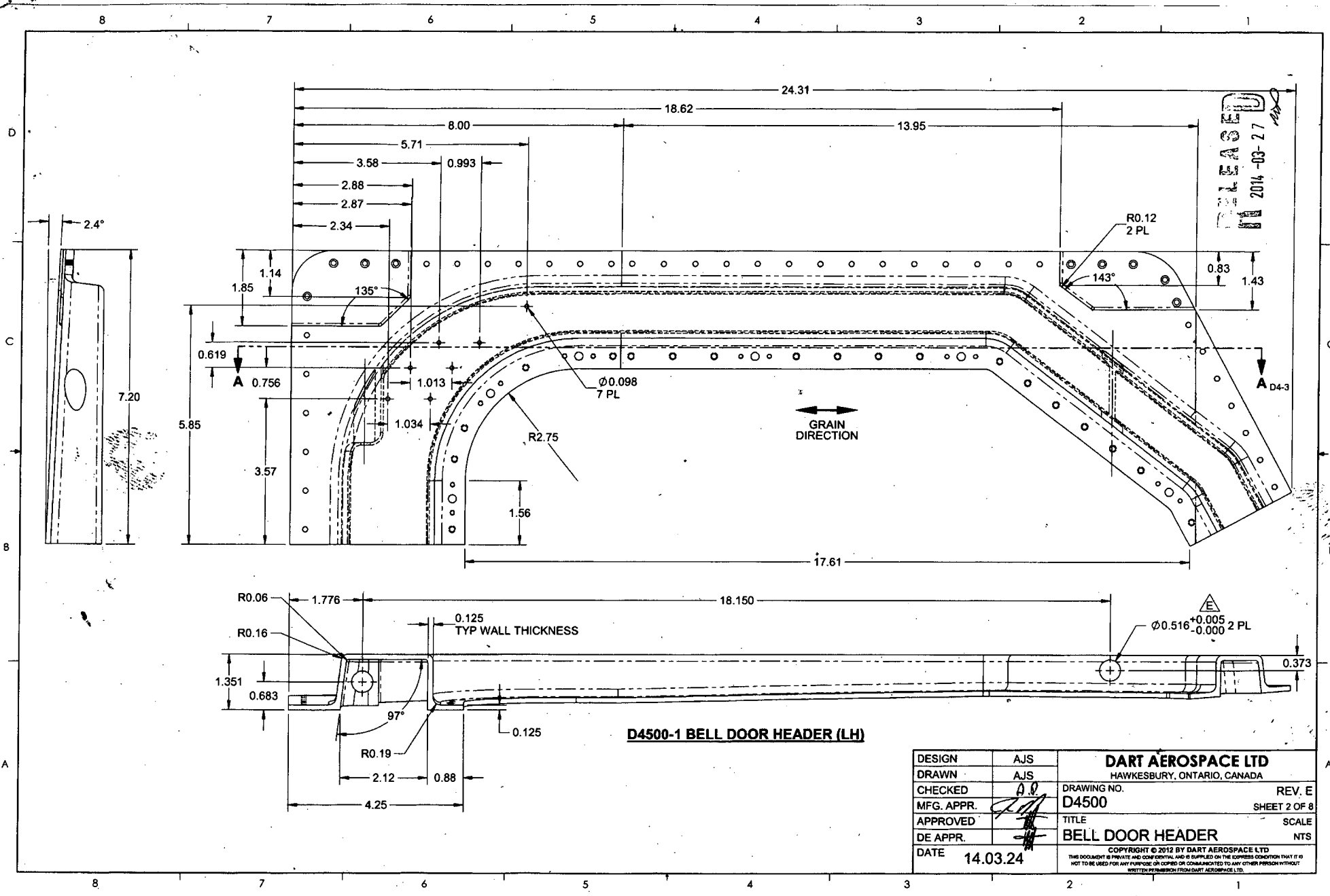
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐															
Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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D4500-1 BELL DOOR HEADER (LH)

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AJS	DRAWING NO.	REV. E
MFG. APPR.		D4500	SHEET 2 OF 8
APPROVED		TITLE	SCALE
DE APPR.		BELL DOOR HEADER	NTS
DATE	14.03.24	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Transport									
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Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
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DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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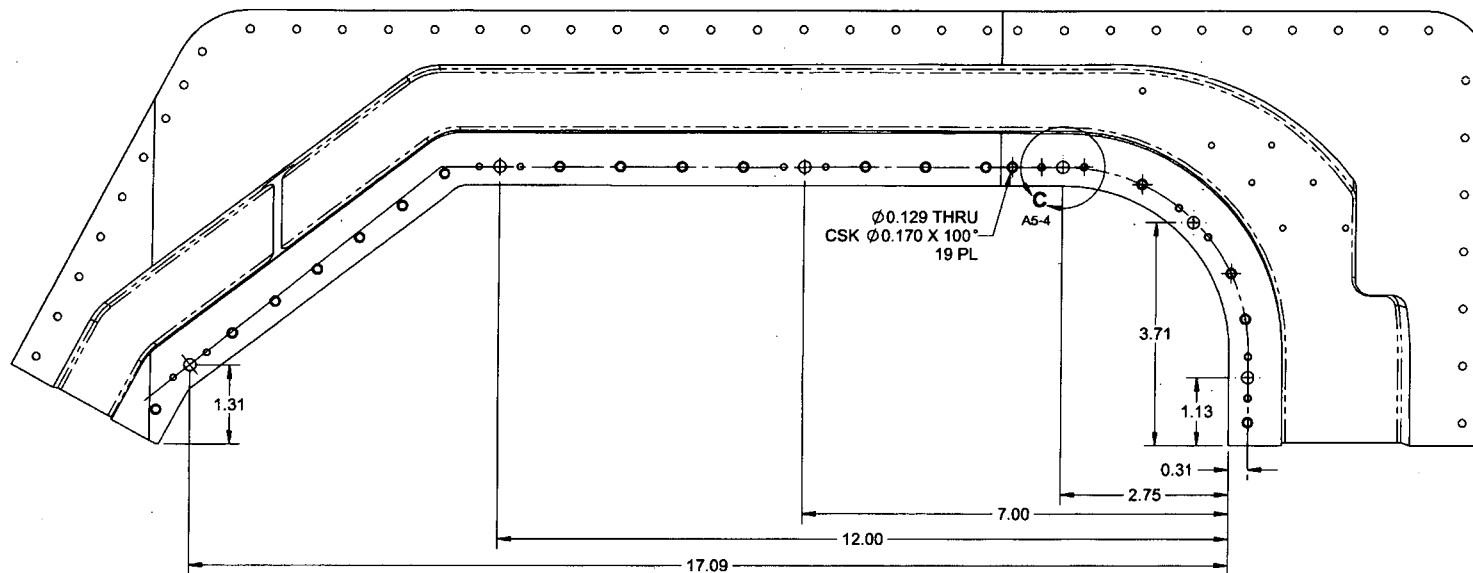
Work Order update only ☐

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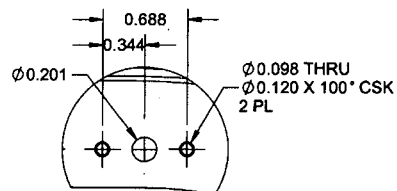
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Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
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(SUPPLEMENTAL VIEW
NUTPLATE LOCATIONS)



DETAIL C C3-4
NUTPLATE HOLE DETAIL 6 PL
SCALE 2X

RELEASED
2014-03-27

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. E
MFG. APPR.		D4500	SHEET 4 OF 8
APPROVED		TITLE	SCALE
DE APPR.		BELL DOOR HEADER	NTS
DATE	14.03.24	COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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